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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,460	08/31/2006	Steven M. Palay	WCOL133831	5763

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EXAMINER	
SPAR, ILANA L	

ART UNIT	PAPER NUMBER
2629	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/598,460	PALAY ET AL.	
	Examiner	Art Unit	
	ILANA SPAR	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 April 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *22 and 51-67* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22 and 51-67* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The following Office Action is responsive to the remarks received on April 13, 2010.

2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 22, 52, 59, and 61 are rejected under 35 U.S.C. 102(b) as being anticipated by Fleck et al. (US Patent Publication No. 2001/0006383).

With reference to claim 22, Fleck et al. teaches a surface and cordless transducer system, the system comprising:

a surface (51) including a position resolving grid (67) (see paragraphs 62 and 65), and

a transducer (61) including a power receiving circuit, wherein the power receiving circuit responds to an electromagnetic field radiating from the surface and sends a transmit signal, which is received by the position resolving grid and used to determine a position of the transducer relative to the surface (see paragraphs 65-66),

wherein the surface further includes a power transmission coil (67), which is distinct from the position resolving grid, for radiating the electromagnetic field, the power transmission coil being a resonant power transmission coil and consisting of a plurality of overlapping coils (see paragraph 65 and Figure 12 – the coils both transmit power and receive a position signal, and as stated at lines 27-30, two separate groups of overlapping coils may be used, with one for transmitting and one for receiving, overlapping as shown in Figure 12).

With reference to claim 52, Fleck et al. teaches all that is required with reference to claim 22, and further teaches that the position resolving grid and the resonant power transmission coil, consisting of a plurality of overlapping coils, are arranged on top of one another to form the surface (see paragraph 65 and Figure 12).

With reference to claim 59, Fleck et al. teaches a method for determining a position of a transducer relative to a surface, wherein the surface includes a position resolving grid and the transducer includes a power receiving circuit, the method comprising:

causing the power receiving circuit to respond to an electromagnetic field radiating from the surface and to send a transmit signal (see paragraph 65), and

causing the position resolving grid to receive the transmit signal from the transducer to thereby determine a position of the transducer relative to the surface (see paragraphs 65-66),

wherein the surface further includes a power transmission coil (67), which is distinct from the position resolving grid, the power transmission coil being a resonant

power transmission coil and consisting of a plurality of overlapping coils (see paragraph 65 and Figure 12 – the coils both transmit power and receive a position signal, and as stated at lines 27-30, two separate groups of overlapping coils may be used, with one for transmitting and one for receiving, overlapping as shown in Figure 12), and the method further comprises:

causing the power transmission coil to radiate the electromagnetic field (see paragraph 65).

With reference to claim 61, Fleck et al. teaches all that is required with reference to claim 59, and further teaches that the position resolving grid and the resonant power transmission coil, consisting of a plurality of overlapping coils, are arranged on top of one another to form the surface (see paragraph 65 and Figure 12).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 51 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fleck et al. in view of Oda et al. (US Patent No. 7,423,629).

With reference to claim 51, Fleck et al. teaches all that is required with reference to claim 22, but fails to teach that the resonant power transmission coil comprises a transmission coil of the resonant inductive type.

Oda et al. teaches that the resonant power transmission coil comprises a transmission coil of the resonant inductive type (see column 7, lines 44-55).

It would have been obvious to one of ordinary skill in the art at the time of invention to use a resonant inductive transmission coil to provide a signal to the transducer that could then be used to power the transducer.

With reference to claim 60, Fleck et al. teaches all that is required with reference to claim 59, but fails to teach that the resonant power transmission coil comprises a transmission coil of the resonant inductive type.

Oda et al. teaches that the resonant power transmission coil comprises a transmission coil of the resonant inductive type (see column 7, lines 44-55).

It would have been obvious to one of ordinary skill in the art at the time of invention to use a resonant inductive transmission coil to provide a signal to the transducer that could then be used to power the transducer.

8. Claims 53 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fleck et al. in view of Fukuzaki et al. (US Patent No. 5,600,105), further in view of Ronkka et al. (US Patent No. 6,002,387).

With reference to claim 53, Fleck teaches all that is required with reference to claim 22, but fails to teach that the transducer generates and stores DC operating power.

Fukuzaki et al. teaches that the transducer is configured to generate DC operating power for operating the transducer based on a signal from the power receiving circuit in response to the electromagnetic field radiating from the power transmission coil arranged on the surface (see column 6, lines 45-49 and column 15, lines 26-29).

It would have been obvious to one of ordinary skill in the art at the time of invention that, as taught by Fukuzaki et al., it is desirable to generate power within the transducer using the signal received from the power transmission coil of the surface, such that the transducer can function wirelessly and without having to include an independent power source, thus simplifying construction and operation of the transducer device.

Fleck et al. and Fukuzaki et al. fail to teach storing the generated DC voltage.

Ronkka et al. teaches storing the generated DC voltage (see column 2, lines 17-19).

It would have been obvious to one of ordinary skill in the art at the time of invention to store the DC voltage such that the transducer is able to provide power even when the surface is not transmitting a signal, i.e. when the surface is in receiving mode rather than transmitting mode.

With reference to claim 62, Fleck teaches all that is required with reference to claim 22, but fails to teach that the transducer generates and stores DC operating power.

Fukuzaki et al. teaches that the transducer generates DC operating power for operating the transducer based on a signal from the power receiving circuit in response to the electromagnetic field radiating from the power transmission coil (see column 6, lines 45-49 and column 15, lines 26-29).

It would have been obvious to one of ordinary skill in the art at the time of invention that, as taught by Fukuzaki et al., it is desirable to generate power within the transducer using the signal received from the power transmission coil of the surface, such that the transducer can function wirelessly and without having to include an independent power source, thus simplifying construction and operation of the transducer device.

Fleck et al. and Fukuzaki et al. fail to teach storing the generated DC voltage.

Ronkka et al. teaches storing the generated DC voltage (see column 2, lines 17-19).

It would have been obvious to one of ordinary skill in the art at the time of invention to store the DC voltage such that the transducer is able to provide power even when the surface is not transmitting a signal, i.e. when the surface is in receiving mode rather than transmitting mode.

9. Claims 54, 55, 63, and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fleck et al. in view of Yamanami et al. (US Patent No. 5,028,745).

With reference to claim 54, Fleck et al. teaches all that is required with reference to claim 22, but fails to teach that the resonant power transmission coil is tuned to a different frequency when inactive.

Yamanami et al. teaches that the resonant power transmission coil, when inactive, is configured to be tuned to a frequency that is different from its operating frequency so as to minimize an electromagnetic interference between the resonant power transmission coil and the position resolving grid (see column 5, lines 39-43).

It would have been obvious to one of ordinary skill in the art at the time of invention to change the frequency of the transmission coil such that the position resolving grid does not detect a signal from the transducer in error, by detecting the signal from the transmission coil.

With reference to claim 55, Fleck et al. teaches all that is required with reference to claim 22, but fails to teach that the resonant power transmission coil is configured to be squelched.

Yamanami et al. teaches that the resonant power transmission coil is configured to be squelched when the surface is receiving a transmit signal from the transducer (see column 5, lines 39-43).

It would have been obvious to one of ordinary skill in the art at the time of invention to prevent the transmission coil from transmitting such that the position resolving grid does not detect a signal from the transducer in error, by detecting the signal from the transmission coil.

With reference to claim 63, Fleck et al. teaches all that is required with reference to claim 59, but fails to teach that the resonant power transmission coil is tuned to a different frequency when inactive.

Yamanami et al. teaches tuning the resonant power transmission coil, when inactive, to a frequency that is different from its operating frequency so as to minimize an electromagnetic interference between the resonant power transmission coil and the position resolving grid (see column 5, lines 39-43).

It would have been obvious to one of ordinary skill in the art at the time of invention to change the frequency of the transmission coil such that the position resolving grid does not detect a signal from the transducer in error, by detecting the signal from the transmission coil.

With reference to claim 64, Fleck et al. teaches all that is required with reference to claim 59, but fails to teach that the resonant power transmission coil is configured to be squelched.

Yamanami et al. teaches squelching the resonant power transmission coil when the surface is receiving a transmit signal from the transducer (see column 5, lines 39-43).

It would have been obvious to one of ordinary skill in the art at the time of invention to prevent the transmission coil from transmitting such that the position resolving grid does not detect a signal from the transducer in error, by detecting the signal from the transmission coil.

10. Claims 56-58 and 65-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fleck et al. in view of Fukuzaki et al. (US Patent No. 5,600,105).

With reference to claim 56, Fleck et al. teaches all that is required with reference to claim 22, but fails to teach that the transducer performs a predefined modulation on a transmit signal to be sent to the position resolving grid.

Fukuzaki et al. teaches that the transducer is configured to perform a predefined modulation on a transmit signal to be sent to the position resolving grid (see column 5, lines 55-60 and column 6, lines 38-45).

It would have been obvious to one of ordinary skill in the art at the time of invention to modulate the signal being sent to the position resolving grid to ensure that it transmits the correct information at a frequency that the position resolving grid will be able to receive and distinguish as being sent from the transducer.

With reference to claim 57, Fleck et al. and Fukuzaki et al. teach all that is required with reference to claim 56, and Fukuzaki et al. further teaches that the predefine modulation comprises a time keying modulation or an on/off modulation (see column 5, lines 31-40 – the signal is modulated to be either on or off).

With reference to claim 58, Fleck et al. teaches all that is required with reference to claim 22, but fails to teach that the transducer includes a low current source that is configured to provide a constant transmit signal level.

Fukuzaki et al. teaches that the transducer includes a low current source that is configured to provide a constant transmit signal level (see column 8, lines 21-26 and 47-53).

It would have been obvious to one of ordinary skill in the art at the time of invention for the transducer to generate and transmit a constant signal to inform the position resolving grid of the location of the transducer at all times.

With reference to claim 65, Fleck et al. teaches all that is required with reference to claim 59, but fails to teach causing the transducer to perform a predefined modulation on a transmit signal to be sent to the position resolving grid.

Fukuzaki et al. teaches causing the transducer to perform a predefined modulation on a transmit signal to be sent to the position resolving grid (see column 5, lines 55-60 and column 6, lines 38-45).

It would have been obvious to one of ordinary skill in the art at the time of invention to modulate the signal being sent to the position resolving grid to ensure that it transmits the correct information at a frequency that the position resolving grid will be able to receive and distinguish as being sent from the transducer.

With reference to claim 66, Fleck et al. and Fukuzaki et al. teach all that is required with reference to claim 65, and Fukuzaki et al. further teaches that the predefined modulation comprises a time keying modulation or an on/off modulation (see column 5, lines 31-40 – the signal is modulated to be either on or off).

With reference to claim 67, Fleck et al. teaches all that is required with reference to claim 59, but fails to teach that the transducer includes a low current source that is configured to provide a constant transmit signal level.

Fukuzaki et al. teaches that the transducer includes a low current source that is configured to provide a constant transmit signal level (see column 8, lines 21-26 and 47-53).

It would have been obvious to one of ordinary skill in the art at the time of invention for the transducer to generate and transmit a constant signal to inform the position resolving grid of the location of the transducer at all times.

Response to Arguments

11. Applicant's arguments, see pages 2-3, filed April 13, 2010, with respect to the rejection(s) of claim(s) 22 and 59 under 35 U.S.C. § 102 (b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the newly found prior art which had previously been presented to Applicant's representative during the telephone interview on March 4, 2010.

12. Applicant's arguments filed April 13, 2010 have been fully considered but they are not persuasive. Applicant argues (see page 3) that the Fleck reference (US Patent No. 6,556,190) fails to teach the resonant power transmission coil. However, as Examiner explained during the interview, it is clear that the Fleck reference does in fact teach the resonant power transmission coil. Applicant has failed to provide any reasoning as to why this reference fails to meet the claim limitations, and Examiner maintains that this reference does read on the claim language. Therefore, Applicant's arguments with reference to the Fleck patent are not persuasive.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ILANA SPAR whose telephone number is (571)270-7537. The examiner can normally be reached on Monday-Thursday 8:00-4:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571)272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bipin Shalwala/
Supervisory Patent Examiner, Art Unit 2629

ILS